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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/601,606	06/23/2003	Christopher Dube	DR-352J	8958
7590 06/22/2007 IANDIORIO & TESKA INTELLECTUAL PROPERTY LAW ATTORNEYS 260 BEAR HILL ROAD WALTHAM, MA 02451-1018			EXAMINER FOX, JOHN C	
			ART UNIT 3753	PAPER NUMBER
			MAIL DATE 06/22/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/601,606	Applicant(s) DUBE ET AL.	
	Examiner John Fox	Art Unit 3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-65 is/are pending in the application.
- 4a) Of the above claim(s) 46-65 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-45 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

This Action is responsive to the communication filed June 7, 2007.

Claims 46-65 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on March 24, 2005.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-3, 9, 11, 13, 15-17, 19, 21-22, 34-36, 38-41, 44-45 are rejected under 35 U.S.C. 102(b) as being anticipated by Zdeblick.

Zdeblick teaches a microfluidic valve or sensor with associated electronic circuitry on the same substrate or wafer, see column 4, lines 29-45. Such apparatus includes heat transfer and may be termed a dispenser in that there is an outlet for the valved fluid.

Applicant's arguments have been fully considered but they are not persuasive. Applicant's argument that the actuating chamber 10 is closed and cannot receive an input or dispense an output is correct, but entirely misses the point. The rejection is proper if some other portion of the Zdeblick apparatus can receive an input or dispense an output, which is certainly the case. As has been noted in previous office actions, chamber 24 is read as a channel and is itself a fluidic component.

Claims 10, 12, 14, 18, 20, 23-33, 42-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zdeblick.

The components recited are known in fluid handling systems, and in microfluidic systems, and it would have been obvious for one of ordinary skill in the art at the time

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the invention was made to have used them with the microfluidic valve of Zdeblick. The sizing of the valve to handle the amount recited in claims 42-43 is considered to be an obvious matter of design choice in view of the state of the art.

Claims 1 and 37 are rejected under 35 U.S.C. 102(e) as being anticipated by Morse et al.

Morse et al show a laminar MEMS fuel cell with electric connections imbedded therein.

Applicant's arguments have been fully considered but they are not persuasive. The claim is of such broad scope that it is fairly anticipated by Morse et al. Applicant notes an air flow path and a fuel path, which require inlets and outlets, and a channel therebetween. The Morse et al is comprised of laminated layers. Column 5, lines 50+ discloses

"Air manifold layer 38 provides the electrical feedthroughs for the anode, cathode, and resistor power input"

which can be read as conductors and part of a control system.

Claims 1-4 are rejected under 35 U.S.C. 102(e) as being anticipated by Barth et al.

Barth et al show a microfluidic device as claimed including a Kapton film. The deposition chip 108 can include resistors and transistors, electronic elements which perform a control function. See column 8, line 65 to column 9, line 6.

Applicant's arguments have been fully considered but they are not persuasive. The instant specification defines electrofluidic components as almost anything in a fluid

system, including reservoirs and channels. A terminus of a channel can fairly be read as an electrofluidic component.

Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zdeblick in view of Bergstresser et al.

Zdeblick shows the claimed device except for the materials recited. Bergstresser et al teach a circuit board with a phenolic resin adhesive. It would have been obvious for one of ordinary skill in the art at the time the invention was made to have used such a resin to adhere the layers of the valve of Zdeblick. The use of a commercially available resin, R/FLEX, is considered an obvious matter of choice, as is the deposition depth. The recitation of "etched" in claim 7 relates to a method of manufacture and is not given weight in the apparatus claim. As to claim 8, the step of not bonding areas that are not supposed to be bonded is considered an obvious expedient.

Since the base reference is seen to be properly applied, this rejection will be maintained.

All claims are drawn to the same invention claimed in the application prior to the entry of the submission under 37 CFR 1.114 and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the application prior to entry under 37 CFR 1.114. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action after the filing of a request for continued examination and the submission under 37 CFR 1.114. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Fox whose telephone number is 571-272-4912. The examiner can normally be reached on Monday-Saturday from 10am-6pm (Hoteling Program).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Keasel can be reached on 571-272-4929. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/John Fox/
John Fox Primary Examiner
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